NOAA FISHERIES
NATIONAL MARINE FISHERIES SERVICE

Authorizations and Permits for Protected Species (APPS)

File #: 1341 - 4R
Title: Renew: Enumerating Sockeye Salmon Emigrating

Applicant Information

Name: Doug Taki
Title: biologist/program manager
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Project Information

File Number: 1341 - 4R

Application Status: **Application Complete**

Project Title: Renew: Enumerating Sockeye Salmon Emigrating from Pettit and Alturas Lakes, Idaho.

Project Status: Renewal

Previous Federal or State Permit: 1341 - 3R

Permit Requested:
- ESA Section 10(a)(1)(A) permit (Pacific fish)

Where will activities occur? Idaho

State department of fish and game/wildlife: N/A

Research Timeframe: **Start:** 03/26/2012 **End:** 12/31/2016

Sampling Season/Project Duration: Our season typically runs from mid April through early June.

Abstract: The Tribes are hereby authorized to annually take listed salmonids while conducting research designed to estimate overwinter survival and downstream migration survival and timing with the goal of evaluating various release strategies and calculating smolt-to-adult return rates. This research would provide information on the relative success of the Pettit and Alturas Lakes sockeye salmon reintroduction programs and thereby benefit the listed fish by improving those programs. Juvenile SR sockeye salmon and spr/sum Chinook salmon will be collected at Pettit and Alturas Lakes, ID, using rotary screw traps and weirs. The fish will be sampled for biological information and released or tagged with passive integrated transponders and released. In addition, to determine trap efficiencies, a portion of the captured juvenile SR sockeye salmon may be marked with a small cut on their caudal fins, released upstream of the traps, captured at the traps a second time, and released. The Tribes do not intend to kill any of the fish being captured, but a small percentage may die as an unintended result of the research activities.

Project Description

Purpose: The purpose of this study is to enumerate (and PIT tag a proportion of) Snake River sockeye salmon smolts emigrating from Pettit and Alturas lakes, ID. This information is required to estimate overwinter survival, downstream migration survival, downstream migration timing, compare growth rates from various release strategies, and calculate smolt to adult return rates. Smolts will be captured using a rotary screw trap on Alturas Lake Creek and a weir on Pettit Lake Creek. This activity is one task of the Shoshone-Bannock Tribes (SBT) sockeye research project. Other tasks include limnological monitoring and evaluation of sockeye rearing lakes, lake carrying capacity estimates, lake nutrient enhancement, and evaluating predator effects on O. nerka population dynamics in relation to different release strategies.

Description: G.
1. This activity was initiated in 1996 and will continue as long as captive broodstock progeny are released into the lakes. The trapping season begins in late April and runs through early June.
2.a. Fish will be captured with a rotary screw trap in Alturas Lake Creek and a weir in Pettit Lake Creek. The weir design was approved by NMFS engineers (Schneider 1995). The trap and weir will be checked (cleaned and fish removed) immediately after sunrise and just before sunset during the majority of the trapping season. During initial and peak runoff, the trap and weir will be checked at a minimum of six hour intervals or more often depending on debris build up.
We will transfer the first one hundred sockeye captured per day to a live box. A maximum of fifty of those fish will be PIT tagged. The number to PIT tag per day will be based on a three-day moving average calculated from three years of trapping in order to ensure the entire run is represented. The remainder of the sockeye, and all chinook will be counted and released immediately. Live and recovery boxes for both locations are 1.5' x 2' x 1.5' and are located in the streams. All ESA listed fish handled out of water will be anesthetized. Fish that are handled will be weighed, measured, and a portion PIT tagged.
2.b. We will use standard 12 mm ISO PIT tags. We will follow tagging guidelines set forth by the PIT tag Steering Committee.
2.c. A stock solution of 15 grams of MS222 and 30 grams of sodium bicarbonate per

liter will be used to anesthetize fish prior to handling. We will soak needles in a 70% alcohol solution at least ten minutes before using to insert tags.
2.d. We will hold all PIT tagged fish for release at dusk in the recovery boxes mentioned above.
2.e. N/A
3. Although capture of all fish is passive in nature, there is a possibility for injury or mortality to occur. Physical damage caused by ice or other debris is possible as well as predation by other fish (northern pikeminnow Ptychocheilus oregonensis, bull trout Salvelinus confluentus) if they occupy the live box concurrently. The frequency in which the trap and weir are checked is determined by the number of fish captured and the accumulation of debris. When run off begins and debris build up increases, the traps are cleaned more frequently to prevent any physical damage to captured fish. Cinder blocks with openings that a smolt sized fish may enter but not larger fish and large woody debris are placed in the live boxes for concealment cover for captured smolts.

Supplemental Information

Status of Species:	endangered
Methods:	See Project Description for details
Lethal Take:	Unintentional mortality of Chinook salmon captured in the Alturas Lake screw trap has been less than ten fish in previous years and as low as zero. Unintentional mortality of SR sockeye salmon varies by year but has not exceeded allowed take under the current permit. Current allowance of sixteen Chinook salmon and 140 SR sockeye salmon have been reasonable numbers to allow us to complete our research objectives.
Anticipated Effects on Animals:	There should be little to no effects shown to captured fish.
Measures to Minimize Effects to Listed Species:	See project description for details.
Resources Needed to Accomplish Objectives:	See project description for details.
Disposition of Tissues:	Genetic samples will be sent to the Eagle Fish Hatchery Lab for analyisis.
Public Availability of Product/Publications:	Bonneville Power Administration website and articles published in professional journals.

Federal Information

Federal Agency	Type	Authorization Number and Title	Date Signed	Expiration Date	Listing Units/Stocks Covered	Comments
Bonneville Power Administration (BPA)	Funding	2007-402-00 Snake River sockeye salmon habitat and limnological research	12/01/2010	11/30/2011	Chinook Salmon, Snake River spring/summer-run (NMFS Threatened);Sockeye Salmon, Snake River (NMFS Endangered)	Project is ongoing with new contracts signed annually. The contract for next year has been completed.

Location/Take Information

Location

Research Area: Pacific Ocean **State:** ID **Sub Basin (4th Field HUC):** Upper Salmon
Location Description: Pettit and Alturas Lakes in Idaho.

Take Information

Line	Ver	Species	Listing Unit/Stock	Production /Origin	Life Stage	Sex	Expected Take	Indirect Mort	Take Action	Observe /Collect Method	Procedure	Run	Transport Record	Begin Date	End Date
1		Salmon, Chinook	Snake River spring/summer-run (NMFS Threatened)	Natural	Juvenile	Male and Female	5400	16	Capture/Handle/Release Fish	Trap, Screw		Spring/Summer	N/A	3/26/2012	12/31/2016
2		Salmon, sockeye	Snake River (NMFS Endangered)	Natural	Juvenile	Male and Female	5600	112	Capture/Handle/Release Fish	Trap, Screw		N/A	N/A	3/26/2012	12/31/2016
3		Salmon, sockeye	Snake River (NMFS Endangered)	Natural	Juvenile	Male and Female	1400	28	Capture/Mark, Tag, Sample Tissue/Release Live Animal	Trap, Screw	Finclip - mark; Tag, PIT	N/A	N/A	3/26/2012	12/31/2016

NEPA Checklist

1) If your activities will involve equipment (e.g., scientific instruments) or techniques that are new, untested,or otherwise have unknown or uncertain impacts on the biological or physical environment , please discuss the degree to which they are likely to be adopted by others for similar activities or applied more broadly.

We use techniques that are common to most agencies that captures salmon smolts for research activities

2) If your activities involve collecting, handling, or transporting potentially infectious agents or pathogens (e.g., biological specimens such as live animals or blood), or using or transporting hazardous substances (e.g., toxic chemicals), provide a description of the protocols you will use to ensure public health and human safety are not adversely affected, such as by spread of zoonotic diseases or contamination of food or water supplies.

n/a

3) Describe the physical characteristics of your project location, including whether you will be working in or near unique geographic areas such as state or National Marine Sanctuaries, Marine Protected Areas, Parks or Wilderness Areas, Wildlife Refuges, Wild and Scenic Rivers, designated Critical Habitat for endangered or threatened species, Essential Fish Habitat, etc. Discuss how your activities could impact the physical environment, such as by direct alteration of substrate during use of bottom trawls, setting nets, anchoring vessels or buoys, erecting blinds or other structures, or ingress and egress of researchers, and measures you will take to minimize these impacts.

Our research is conducted in critical habitat in the Sawtooth National Recreation Area. Please see project description for more details.

4) Briefly describe important scientific, cultural, or historic resources (e.g., archeological resources, animals used for subsistence, sites listed in or eligible for listing in the National Register of Historic Places) in your project area and discuss measures you will take to ensure your work does not cause loss or destruction of such resources. If your activity will target marine mammals in Alaska or Washington, discuss measures you will take to ensure your project does not adversely affect the availability (e.g., distribution, abundance) or suitability (e.g., food safety) of these animals for subsistence uses.

n/a

5) Discuss whether your project involves activities known or suspected of introducing or spreading invasive species, intentionally or not, (e.g., transporting animals or tissues, discharging ballast water, use of equipment at multiple sites). Describe measures you would take to prevent the possible introduction or spread of non-indigenous or invasive species, including plants, animals, microbes, or other biological agents.

n/a

Project Contacts

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Principal Investigator: Doug D Taki

Other Personnel:

Name	Role(s)
Ken Ariwhite	Co-Investigator
Evelyn Galloway	Co-Investigator
Angelo Teton	Co-Investigator

Attachments

This section is currently empty.

Status

Application Status: Application Complete
Date Submitted: October 24, 2011
Date Completed: October 24, 2011
FR Notice of Receipt Published: November 17, 2011 **Number:** 2011-71315
Comment Period Closed: December 19, 2011 **Comments Received:** No **Comments Addressed:** No
Last Date Archived: May 22, 2012

• ESA Section 10(a)(1)(A) permit (Pacific fish)

Current Status: Issued **Status Date:** March 26, 2012
Section 7 Consultation: Formal Consultation
NEPA Analysis: Categorical Exclusion
Expire Date: December 31, 2016
Analyst Information:

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Modification Requests

Reports